



# SMARTPHONE IS MAKING PEOPLE SICK

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## ABSTRACT

A gadget included in the modern gadget which has a boon for the entire human race and almost all of them have an important and integral part in their daily routine, that thing is the smartphone. While on one hand it remains a boon for humans, and the other hand it causes serious health problem due to its increasing misuse. And it's making people sick. Radiations emanating from the phone are absorbed by the skin, although it is tolerable. But its prolonged exposure can cause various types of complications. If the smartphone is used for too long of the night, the circadian rhythm is disturbed. It leads to insomnia as well as its glossy blue light brings change in photoreceptor cell in eyes. Most people carry or keep smartphone near the waist and in the pockets of paint, by doing so, it adversely affects reproductive organs and brings infertility. Radio-frequency electromagnetic radiation (RFEMR) which is emitted from smartphone causes damage of gonad. These radiation decreases sperm motility and development. In females radiation exert adverse effect on ovary and endometrial tissue. The study also revealed that cancer and tumor is also possible due to misuse and excessive of smartphone.

**KEY WORDS:** Blue-light, Diseases, Radiation, Smartphone.

## INTRODUCTION:

In the modern era, among the increasing mechanization many instruments, tools and gadgets have developed which in addition to making work easier and also save time. But excessive uses of these things are dangerous for health and it causes various types of health complications. Gadgets have become a part of human's daily routine. Smartphone is one of these gadgets that have greatly influenced human life and have become an integral part of their lives. Without this, modern life cannot be imagined. Rising modernity has also linked human activities to the app of smart phones. From this we can estimate how far it has penetrated in human life. But recently its unbridled use is being seen in human especially youths and children. Many diseases are being exposed due to its misuse. According to a figure, 3.2 billion people are using smartphones in the world. It is estimated that by 2021 this number will increase to 3.8 billion. Most users of smartphones are in China, India and United Kingdom. Excessive use of smartphone causes eye strain, headache, hearing loss, insomnia, decrease attention, depression etc. Apart from this, it is likely to have access to cancer. The most feared thing in modern research is that the smartphone is connected to cancer somewhere. Scientists believe that the risk of brain cancer increases by 50% in people who talk on the phone for hours. The reason for this is the radio wave emitted from the smartphone. It also affects the nervous system. While on one hand, its excessive use is inviting many diseases, on the other hand, the problem of smartphone addiction is common due to its excessive use.

In such a situation, the real world seems fade. In this way, addiction also establishes psychological problems. It also greatly affects reproductive health and pregnant women.

## STUDY:

Over the years, with the advancement of technology, some gadgets such as Smartphone Tabs have reached to the more and more people. It is true that these gadgets are also a necessity of recent period. But its misuse and excessive use are causing many diseases. The problem caused by this may seem normal at first, but it can also be serious if we do not pay attention. This problem can be of the following type:

1. **Eye strain:** Smartphone has become an accessible means of modern telecommunication for the peoples. While it has many advantages, it also has many disadvantages. The most common of these losses is eye strain. This can be sustained by working too long on a laptop or tab etc. Initial symptoms include burning eye, pain in eye, redness, blur vision, etc. while dry eyes, defect in color vision etc. are far-reaching symptom. Our eyelids blink 5 to 6 times in a minute whenever we gaze at a smart phone. But normally our eyelid blinks 20 times within a minute. This happens due to the focus on the screen. This does not cause movement of our eyes and the tears formed in the eye dry up. These tears are necessary to keep the eyes moist. Persistence of this situation can cause eye damage. Apart from this, the blue light emitted from the smartphone's screen diversely affects the eyes. Glossy Blue light which emits from smartphone is very dangerous. This type of light also emits from laptops, computer, tab, etc. This light promotes the growth of the Poisonous molecule in the eyes.

According to the journal "Scientific Report" glossy Blue light of

smartphone harms retina in eyes. This glossy Blue-light directly affects the light cells of retina. Overburdening of blue light causes macular degeneration. Such situation can cause vision loss [1].

It is also seen that people use smartphones in the room at night. The blue light of the smartphone in the dark room becomes even more deadly. This increases the risk of temporary vision loss. It is necessary to keep the appropriate light in the room before using such types of gadget.

2. **Insomnia:** It is a type of sleep disorder. Recently, the trend of working on gadgets has increased till late night; some people are engaged with gadgets till late night due to office or other work. Youth and children have also come under this grip because it has also become a means of entertainment.

People use it till late night, due to which the body stays in the grip of waves emanating from the phone for a long time.

Because of this the body does not get rest. Recently, smartphone craze has increased among the youth, due to which they often stay awake for a long time while chatting. We know that the light emits from phone is dangerous. It deeply affect the sleep cycle. Due to the bright blue light, the brain gets a sense of the day and the person does not sleep till late at night. This affects the person's sleep cycle. The person is not able to sleep properly due to lack of sleep. Recent research has shown that sleeping less greatly increases the risk of depression in humans. Blue light of smartphone stops or inhibit the secretion of melatonin. This hormone plays role in sleep cycle. Due to its restriction, the sleep cycle is disturbed and due to this the person's circadian rhythm is disturbed [2]. Decreased level of melatonin drives sleep away. If this condition persists long time it can cause insomnia. A hormone called cortisone is also secreted due to disturbances in the regulation of the hormone melatonin. It is called stress hormone. Due to increased level of cortisone, people remain tense even in sleep. A school in Japan studied 295 teens. It showed that children who use mobile for 5 hours a day and only watch videos or suffering internet or playing games, insomnia or short sleeping condition was seen in such children, whereas they did not have symptoms of depression. They also found in the study that children who were using mobile for 2 hours a day and suffering only social networking or chatting in such children, depression occur. From this we can understand that apart from spending time on smartphones, what we use on smartphones also affects our health [3].

3. **Hearing damage:** Headphones and earphones have also become common with smartphones. Nowadays it is used indiscriminately to talk and listen music. Its use for too long causes damage to the eardrum. In such a situation, there is a problem of hard hearing and hearing loss. Between such problems, Headache, sounds like a bell in the ear, fluid coming out of the ear, hearing loss, ear closure, frequent ear pain can be seen. It is the early symptoms of ear damage. Normally a person can hears 20 thousands hertz frequency. The ability of hearing can be estimated by decibel. For humans, sound more than 85 decibel is dangerous. This sound goes beyond 100 decibels while listening to the song on the earphone. It harms the eardrum. Hearing 100 decibels for more than half an hour causes eardrum to get damaged. When the sound

waves reach our ears, the eardrum starts to vibrate. This vibration reaches the inner ear through many small bones. Sound waves reach the cochlea and produces movement in small hairs present in cochlea. Loud sound produces more vibration and more vibration produces more movement in hairs. If loudly sound persists long time it decreases the sensitivity of the small hairs. It is the main cause of temporary hearing loss. The problem of temporary hearing loss continues until the small hairs present in cochlea heal themselves. When this problem increases so much that hairs cannot heal themselves, then it is called long last hearing loss [4].

4. **Cancer:** Research has revealed that the most dangerous complications that can cause access to the mobile is cancer and brain tumor. This threat depends on the number of smart phones, as well as the incoming calls and the length of calls. Radio-frequency emits from phones in the form of non- ionizing electromagnetic radiation. This radiation easily absorbed by tissue. However radio-frequency emitting depends on various factors. It depends upon types and quality of phones.

International Agency for Research on Cancer (IARC) categories the phone radiation and tell that these radiation may be carcinogenic and can cause carcinogenicity. However more research is needed on this topic [5]. In another research, it has been proved that people who talk on the phone for hours, the risk of brain cancer or tumor is 1.5 times higher than that of other people. The reason for this is that more radiation comes out when we talking to the phone. In such condition our brain received 320 electromagnetic impulses per minute. Although it is not dangerous, but it can be fatal if the condition occurs again and again. Recent research has found two types of cancer that can be sustained in this way. These are the glioma and acoustic neuroma [6].

5. **Reproductive health:** The study has revealed that the excessive use of the smartphone also affects reproductive health. Radio-frequency electromagnetic radiation ( RFEMR) emitted from smartphone exert negative effect on reproductive organs. It is said that when the phone is carried around or around the waist, it is close to the reproductive organ and causes dysfunction in the gonad.

Specifically it affects sperm development and production and decreases fertility. Prolong exposure of RFEMR causes sperm head abnormalities as well as it decreases sperm viability and motility. It increases apoptosis in gonad. RFEMR directly or indirectly affect decreases the secretion of testosterone and alter the spermatogenesis process. It damages sperm DNA. If talk about the loss of female reproductive health RFEMR exert negative effect on granulosa cells, oocyte, no of follicle, endometrial tissue and no of fetal too. Even pregnancy RFEMR alters the heart physiology of fetus. While it affects the number of follicles in ovary, it also damages oocyte DNA. It increases apoptosis in endometrial tissue and oxidative stress. It retards fetal growth and increases mortality [7]. According to author Zeher O Merhi if pregnant women put the phone in dialing mode for 10 minutes and stay in exposure of phone, then the fetal heart rate increases as well as its cardiac output also changes.

## CONCLUSION:

As conclusion, we can say that the radiation emanating from the Smartphone affects the human body in many ways. Although its effect is not seen immediately, but its excessive use or misuse for a long time brings many complications like eye strain, headache, hearing loss, insomnia and very serious complications like cancer, brain tumor etc.

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